

REMARKS

Claims 1-6 are pending in the present application.

Claims 1, 3-6 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,532,088 of Dantu et al ("Dantu").

Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over Dantu in view of U.S. Patent No. 5,241,534 of Omuro et al ("Omuro").

Claims 1 is rejected under 35 U.S.C. §102(e) as being anticipated by Dantu.

Specifically, the Examiner states that:

Regarding claim 1, Dantu discloses an multi-protocol label switching system (MPLS) having a working path over which data is carried from a source to a destination and further having a protection path over which data from said source to said destination can be carried, a method of initiating an MPLS protection path switch over from said working path to said protection path comprising the steps of:

- detecting a failure on said working path at a first switching node of said working path (col. 4 lines 8-21);
- transmitting a failure notification message from said first switching node to at least a second, switching node of said working path (col. 4 lines 8-21);
- routing data from said working path to said protection path upon the receipt of said failure notification message at least one of: said second switching node and a third switching node of said working path (col. 4 lines 8-21). (3/1/04 Office Action, pp. 2-3)

Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over Dantu in view of Omuro.

Specifically, the Examiner states that:

Regarding claim 2, Dantu fails to explicitly disclose that re-routing data from said protection path to said working path upon the determination that said failure on said working path has been corrected. Omuro, on the other hand, teaches re-routing (change back) data from said protection path to said working path upon the determination that said failure on said working path has been corrected (see abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to implement the teaching of Omuro in the system taught by Dantu in order to restore the original path upon the restoration the path – where the original path usually is cost efficient and shortest path. (3/1/04 Office Action, p. 5)

Claim 4 is rejected under 35 U.S.C. §102(e) as being anticipated by Dantu. Specifically, the

Examiner states that:

Regarding claim 4, Dantu discloses a multi-protocol label switching (MPLS) system protection switch, said MPLS switch comprised of

- a data input port into which MPLS data is received from a data source (input port of central network node 300);
- a first data output port from which MPLS data is sent to a second MPLS switching system comprising an MPLS working path (output port of the central network work node which sent the MPLS data to the either network node 312 or 320, see figure 3);
- a second data output port from which MPLS data is sent to a third MPLS switching system comprising an MPLS protection path (output port of the central network node which sent the MPLS data to either network node 312 or 320, see figure 3);

whereby data received at said data input port from said data source can be selectively routed from said second MPLS switching system to said third MPLS switching system (see col. 9 lines 8-33 and figure 3).

Applicants respectfully submit that Dantu and Omuro do not render Claims 1, 2 and 3 unpatentable under 35 U.S.C. §102(e) or unpatentable under 35 U.S.C. §103(a).

Dantu discloses a system for transporting IP user traffic over a fiber optic ring network that includes a plurality of network nodes. (Dantu, Abstract) In the system disclosed by Dantu, an ingress node is connected to the internet to receive path information (e.g. communication link failures) to determine IP packet routing whenever it receives a packet of data that is to be transmitted to a specified location. (Dantu, Col. 6, lines 55-64; FIG. 1; Col. 13, lines 42-49; FIG. 3) In the system, to identify a fault condition, multiple layer 1 overhead signaling messages are generated and transmitted back to the ingress node. (Dantu, Col. 4, lines 8-10). These multiple layer 1 overhead signaling messages are transmitted by the nodes detecting the error (typically the two nodes on either traffic side of the detected problem) on a communication link so that the ingress node may effectuate the change on a quick basis. (Dantu, Col. 4, lines 12-16).

Dantu does not teach or suggest transmitting a failure notification message from only a first switching node to at least a second, switching node of the working path. Dantu also does not teach the routing data from the working path to the protection path upon the receipt of the failure notification message from only the first switching node. On the contrary, Dantu discloses the transmission of layer 1 overhead signaling messages "by the nodes detecting the error (typically the two nodes on either traffic

side of the detected problem)". (Dantu, Col. 4, lines 12-16) Furthermore, in the system disclosed by Dantu, in response to the layer 1 overhead signaling messages by the nodes detecting the error, an ingress node may effectuate a change. (Dantu, Col. 4, lines 16-19) Specifically, protection switching by the ingress nodes occurs in response to the transmission of layer 1 overhead signaling messages by the nodes detecting the error.

In contrast, Claim 1 is limited to:

In a multi-protocol label switching system (MPLS) having a working path over which data is carried from a source to a destination and further having a protection path over which data is carried from the source to the destination can be carried, a method of initiating an MPLS protection path switch over from the working path to the protection path comprising the steps of:

- a. detecting a failure on the working path;
- b. transmitting a failure notification message from only a first switching node to at least a second, switching node of the working path;
- c. routing data from the working path to the protection path upon the receipt of the failure notification message at at least one of the second switching node and a third switching node of the working path.

(Claim 1) (Emphasis added)

Given that Claims 2 and 3 directly depend on Claim 1, Applicants submit that Claims 2 and 3 are also patentable under 35 U.S.C. §102(e) in view of Dantu and under 35 U.S.C. §103(a) over Dantu in view of Omuro. Furthermore, given that new Claims 7-11 directly depend on Claim 1, Applicants submit that new Claims 7-11 are also patentable under 35 U.S.C. §102(e) in view of Dantu and under 35 U.S.C. §103(a) over Dantu in view of Omuro.

Applicants respectfully submit that Dantu does not render Claims 4, 5 and 6 unpatentable under 35 U.S.C. §102(e).

Dantu does not teach or suggest an MPLS switch adapted to connect to a path that follows an MPLS working path for receiving failure notifications. On the contrary, Dantu discloses a central node with an internet connection to receive internet parameter information, including path information (e.g. communication link failures), to determine IP packet routing whenever it receives a packet of data that is to be transmitted to a specified location. (Dantu, Col. 6, lines 55-64; FIG. 1; Col. 13, lines 42-49; FIG. 3) To receive path information such as communication link failures, the central node disclosed by Dantu

does not require to be adapted to connect to a path that follows an MPLS working path. The central node connects to the internet to receive path information such as communication link failures.

In contrast, Claim 4 is limited to:

Claim 4. A multi-protocol label switching (MPLS) system protection switch comprising:
a first data input port into which MPLS data is received from a data source;
a first data output port from which MPLS data is sent to a second MPLS switching system comprising an MPLS working path;
a second data output port from which MPLS data is sent to a third MPLS switching system comprising an MPLS protection path; and
a second data input port adapted to connect to a path that follows the MPLS working path for receiving failure notifications;
whereby data received at the data input port from the data source can be selectively routed from the second MPLS switching system to the third MPLS switching system.

(Claim 4) (Emphasis added)

Claim 6 and new Claim 12 include a similar limitation. Given that Claim 5 directly depends on Claim 4, Applicants submit that Claim 5 is also patentable under 35 U.S.C. §102(e) in view of Dantu. Furthermore, given that new Claims 13-20 directly or indirectly depend on Claim 12, Applicants submit that Claim 13-20 are also patentable under 35 U.S.C. §102(e) in view of Dantu.

The Examiner objects to Claim 1 because there are two instances of "at". Applicants respectfully submit that the two instances of "at" are necessary for the claim to be grammatically correct.

In view of the arguments set forth herein, it is respectfully submitted that the applicable rejections have been overcome. Accordingly, it is respectfully submitted that Claims 1-6 should be found in condition for allowance. Given that new Claims 7-11 directly depend on Claim 1, Applicants submit that new Claims 7-11 are also in condition for allowance. Finally, Applicants submit since new Claim 12 includes a limitation similar to that in Claim 4, Applicants submit that new Claim 12 and new Claims 13-20, which directly or independently depend on Claim 12, are also in condition for allowance.

If there are any additional charges, please charge them to our Deposit Account Number 500-654.

Respectfully submitted,

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By:



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